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On the Duration of Life among Medical Men. By WILLIAM A. GUY
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[Read before the Statistical Society of London, 19th December, 1853.]

THE present communication is the second of a series of papers on the Duration of Life among the Members of the several Professions. The first paper of the series, "On the Duration of Life among the Clergy," was read at the November Meeting of this Society, in the year 1851, and was published in the December number of the Journal of the Society for the same year. An essay "On the Duration of Life in the Members of the several Professions," founded mainly upon facts gleaned from the "Annual Register," had been previously submitted to the Statistical Section of the British Association for the Advancement of Science, in September, 1846, and was published in the December number of the Society's Journal for the same year. This Essay embodied a table showing the average age at death in 260 members of the medical profession, which table was compared with the results obtained by Professor Casper, of Berlin. I shall presently have occasion to revert to these results. I may also, in this place, remind the Society of the valuable contribution which was made by my able colleague, Mr. Neison, to the department of medical statistics of which this paper treats, in his essay "On the Rate of Mortality in the Medical Profession," read before this Society on the 15th of March, 1852, and published in the September number of the Journal of the Society.

The facts which have been employed in obtaining the average results contained in this communication are:—

1. The ages at death of such English medical men, chiefly physicians and surgeons, as had by their writings and high professional reputation secured for themselves a place in the pages of "Chalmers' Biographical Dictionary."

2. The ages at death of such English medical men, (also chiefly physicians and surgeons,) as have found a place in the less select obituaries of the "Annual Register," from 1758 to 1843; and

3. The ages at death of English medical men, (chiefly physicians and surgeons,) recorded in the pages of the "Biographical Dictionary" up to the year 1815, added to the ages at death recorded in the obituaries of the "Annual Register" from that date up to the year 1852, inclusive. The object of combining the facts derived from these two sources was to bring the data down to the latest period, as well as to increase the number of individual facts from which the average results were to be deduced.

It is necessary to premise, in reference to all these orders of facts, that in this, as in former and in future essays, all deaths by violence, accident, or suicide, are excluded. It should also be borne in mind that the average results are deduced from the ages at death alone, the element of the ages of the living communities among whom the deaths took place being wanting.

TABLE I.

Age.	Biographical Dictionary.	Annual Register, 1758-1843.	B. D. and A. R. to 1852.	Age.	Biographical Dictionary.	Annual Register, 1758-1843.	B. D. and A. R. to 1852.	Age.	Biographical Dictionary.	Annual Register, 1758-1843.	B. D. and A. R. to 1852.
26.....	....	1	1	51.....	1	2	4	76.....	3	10	17
27.....	....	1	1	52.....	5	1	7	77.....	5	3	12
28.....	....	5	2	53.....	3	2	8	78.....	2	11	6
29.....	....	....	1	54.....	3	2	4	79.....	5	2	7
30.....	....	6	2	55.....	2	5	6	80.....	7	9	13
31.....	....	1	1	56.....	1	4	4	81.....	4	2	6
32.....	1	2	2	57.....	2	5	5	82.....	4	11	13
33.....	....	2	1	58.....	3	5	8	83.....	3	5	11
34.....	1	2	3	59.....	6	1	7	84.....	4	6	8
35.....	1	2	5	60.....	1	4	8	85.....	3	6	5
36.....	1	....	3	61.....	3	2	5	86.....	4	2	5
37.....	1	3	2	62.....	2	3	3	87.....	2	1	3
38.....	2	1	3	63.....	10	5	14	88.....	3	2	7
39.....	....	4	1	64.....	7	8	15	89.....	1	2	1
40.....	3	4	7	65.....	4	5	11	90.....	1	2	3
41.....	2	1	5	66.....	2	10	12	91.....	1	....	1
42.....	1	3	3	67.....	3	3	12	92.....	1	2	2
43.....	2	3	7	68.....	6	10	13	93.....	....	1	1
44.....	1	1	2	69.....	3	5	10	94.....	....	....	2
45.....	2	3	2	70.....	3	4	6	95.....	....	1	....
46.....	1	4	3	71.....	5	5	13	96.....	....	2	....
47.....	1	1	4	72.....	11	6	13	97.....	....	1	1
48.....	1	4	7	73.....	2	4	7	98.....	....	....	....
49.....	2	4	3	74.....	3	7	10	99.....	....	....	....
50.....	....	2	2	75.....	6	11	12	100 & upwds.	....	1*	1†

* One of 100 years.
† One of 106 years.

The preceding table will be found to embody, arranged under the three distinct heads just indicated, the individual facts from which the averages of the subsequent tables are derived.

The differences which exist between these three columns of figures are such as might have been expected. The first column, which comprises the ages at death extracted from "Chalmers' Biographical Dictionary," exhibits very few deaths at very early or at very advanced ages, in comparison with the deaths at the corresponding ages contained in the second and third columns. The small number of deaths at the early ages to be found in the pages of the "Biographical Dictionary," was to be expected when we bear in mind how rarely literary or scientific eminence is achieved before the middle period of life; while, on the other hand, the greater number of deaths occurring at the more advanced periods in the column headed "Annual Register," and in the mixed column containing facts from the "Biographical Dictionary," with facts from the later volumes of the "Annual Register," is readily explained by an observation contained in the essay "On the Duration of Life among the Clergy," namely, that the short biographical notices contained in the obituaries of the "Annual Register" will naturally comprise "instances of great longevity, introduced as items of interesting intelligence."

The figures contained in Table I. have supplied the materials for Tables II. and III., which exhibit, for periods of five and ten years respectively, the number and per-centage proportion of deaths under each of the heads already specified; that is to say, the "Biographical Dictionary," the "Annual Register," and the two works combined.

TABLE II.

Age.	Biographical Dictionary.	Annual Register.	B. D. and A. R.	Per-Centage Proportion.		
				Biographical Dictionary.	Annual Register.	B. D. and A. R.
26—30 ....	....	13	7	....	5·06	1·69
31—35	3	9	12	1·72	3·50	2·90
36—40	7	12	16	4·02	4·67	3·83
41—45	8	11	19	4·60	4·29	4·72
46—50	5	11	19	2·87	4·29	4·72
51—55	14	12	29	8·04	4·67	7·00
56—60	13	19	32	7·47	7·39	7·66
61—65	26	23	48	14·94	8·95	11·49
66—70	17	32	53	9·77	12·45	12·77
71—75	27	33	55	15·52	12·87	13·25
76—80	22	35	55	12·64	13·62	13·25
81—85	19	30	43	10·92	11·67	10·36
86—90	11	9	19	6·32	3·50	4·72
91—95	2	4	6	1·15	1·56	1·45
96—100 & } upwards }	....	4	2	....	1·56	0·48

TABLE III.

Age.	Biographical Dictionary.	Annual Register.	B. D. and A. R.	Per-Centage Proportion.		
				Biographical Dictionary.	Annual Register.	B. D. and A. R.
26— 30 ....	....	13	7	....	5·06	1·69
31— 40	10	21	28	5·75	8·17	6·73
41— 50	13	22	38	7·47	8·58	9·44
51— 60	27	31	61	15·51	12·06	14·66
61— 70	43	55	101	24·71	21·40	24·26
71— 80	49	68	110	28·16	26·49	26·50
81— 90	30	39	62	17·24	15·17	15·08
91—100 & } upwards }	2	8	8	1·15	3·12	1·93

The following table shows the average age attained by such medical men belonging to the three classes as had reached the several specified ages. A similar table is given in the Essay "On the Duration of Life among the Clergy," as well as in former essays.

TABLE IV.

Age.	Biographical Dictionary.	Annual Register.	B. D. and A. R.
26 and upwards	67·04	65·36	65·45
31 ,,	67·04	67·31	66·09
41 ,,	68·87	70·23	68·27
51 ,,	70·94	72·95	70·80

Having now presented the facts which I have collected in illustration of the Duration of Life among Medical Men, in tabular forms, admitting of comparison with similar tables employed in illustrating the Duration of Life among the Clergy, I proceed to compare the results obtained, first with other facts bearing on the duration of life of members of the same profession, and secondly, with the duration of life among the clergy.

I have already referred, in the essay "On the Duration of Life in the Members of the several Professions," to the results obtained by Professor Casper, of Berlin. The ages at death on which those results are founded are the ages of medical men described as "*Médecins*." The results do not admit of exact comparison with those contained in the foregoing tables, because the *status* of the class described by him as *Médecins* differs from that of pure physicians and surgeons whose histories are to be found in the pages of the "Biographical Dictionary," or shorter notices of whose lives are contained in the obituaries of the "Annual Register." It is true that the exclusion from Casper's tables of anatomists, veterinary surgeons, naturalists, and medical men engaged solely in literary pursuits, leaves

a residue which may be fairly taken to represent the class of medical men properly so called, and which, with the explanations now given, may be brought into comparison with English physicians and surgeons. This comparison is made in the following table, in which I have thought it sufficient to place side by side the results obtained from the "Biographical Dictionary," and those deduced from Casper's facts.

TABLE V.

Age.	Biographical Dictionary (English Physicians and Surgeons.)	Casper. (German "Médecins.")
26 and upwards	67·04	58·00
31 " 	67·04	59·27
41 " 	68·87	63·82
51 " 	70·94	68·21

It will be seen from this table that whatever age we make the starting-point of our calculations, the English physicians and surgeons have an advantage in the duration of life over German "*Médecins*;"—an advantage which will be seen to be still greater if we substitute the results obtained from the "Annual Register" for those derived from the "Biographical Dictionary."

In comparing the duration of life among members of the medical profession with the duration of life among the clergy, two orders of facts are available—those gleaned from the "Annual Register" from 1758 to 1843, and those obtained from the "Biographical Dictionary." The ages at death collected from the obituaries of the "Annual Register" are, for clergymen, 963 in number; for medical men, 260 in number; those from the pages of the "Biographical Dictionary" are, of clergymen, 909; of medical men, 174. The following table shows the average results obtained in the two cases:—

TABLE VI.

Age.	Annual Register.		Difference.	Biographical Dictionary.		Difference.
	Clergy.	Medical Men.		Clergy.	Medical Men.	
26 and upwards	68·81	65·36	3·45	66·13	67·04	0·91
31 "	69·49	67·31	2·18	66·42	67·04	0·62
41 "	71·82	70·23	1·59	67·60	68·87	1·27
51 "	74·04	72·95	1·09	69·48	70·94	1·46

It will be seen by this table that while the ages at death, extracted from the "Annual Register," yield average results favourable to the clergy, those extracted from the "Biographical Dictionary" afford averages almost equally favourable to the medical profession. If we might safely assume that the number of facts is sufficient to obtain true averages, it would not, perhaps, be unreasonable to explain the favourable result to the clergy, in the case of the facts obtained from

the "Annual Register," to the large proportion of the clergy resident in the country, and the healthy influence of rural habits and pursuits. In the case of the facts gleaned from the pages of the "Biographical Dictionary," the comparison is more exact, and there would be little or no difference in the modes of life of the members of the two professions, except, perhaps, that the lives of the members of the medical profession, who achieve such an amount of distinction as entitles their names to a place in a select Biographical Dictionary, are likely to be more active than those of clergymen, whose claim to distinction is founded chiefly upon literary labours, entailing more sedentary habits.

One of the questions examined in my essay "On the Duration of Life among the Clergy," was the duration of life of clergymen born in different centuries. I now propose to extend this inquiry to the members of the medical profession, and to compare the results the one with the other, as well as to show the results for the aggregate of the two professions. This is done in the following table, which, it must be borne in mind, is based exclusively on the facts obtained from "Chalmers' Biographical Dictionary."

TABLE VII.

	Clergy.		Medical Men.		Clergy and Medical Men.	
	Number of Deaths.	Mean Age.	Number of Deaths.	Mean Age.	Number of Deaths.	Mean Age.
7th century	1	63·00	....	....	1	63·00
11th "	3	73·33	....	....	3	73·33
12th "	4	72·25	....	....	4	72·25
13th "	1	52·00	....	....	1	52·00
14th "	5	67·40	....	....	5	67·40
15th "	18	68·78	1	63·00	19	68·47
16th "	258	66·86	21	64·62	279	66·69
17th "	426	66·41	70	66·95	496	66·49
18th "	193	66·78	82	67·80	275	67·09

In this table the figures which represent the average duration of human life in members of the medical profession differ from those which represent the duration of life among the clergy, inasmuch as they do not show any tendency to a shortening of human life in the case of medical men born during the 17th century. On the contrary, such a tendency does manifest itself not only among the clergy, but in the aggregate of the two professions.

One other comparison instituted in the essay "On the Duration of Life among the Clergy," and which it is proposed to repeat in this and in future essays, is between the married and the single members of the profession. Though the fact of the subjects of the medical biographies having been unmarried is distinctly stated in three instances only, I have thought it worth while to add these instances, contrasted with those in which the subjects of the biographies are stated to have been married, to the small number of facts already collected in the case of the clergy. By following the same course in respect of the other professions, a sufficient number of facts may ulti-

mately be brought together to determine the influence on longevity of married and single life respectively.

TABLE VIII.

	Clergy.			Medical Men.			Clergy and Medical Men.		
	Number of Deaths.	Mean Age.	Greatest Age.	Number of Deaths.	Mean Age.	Greatest Age.	Number of Deaths.	Mean Age.	Greatest Age.
Married	370	68·65	100	75	69·17	92	445	68·74	100
Single	31	63·13	84	3	70·33	75	34	63·77	84
Difference	....	5·52	16	....	1·16	17	....	4·97	16

As these three ages at death, of unmarried medical men, yield a higher average than the ages at death of the seventy-five married men, the consequence of the addition of these new facts to those of the former essay is, to reduce considerably the difference between the gross average results for the two classes. The difference, however, in favour of the married members of the two professions, as shown by the third column, is very nearly five years.

It should be borne in mind that all the numerical results embodied in the preceding tables refer, with few exceptions, to physicians and surgeons. The number of general practitioners and of surgeons in the army or navy, or in the East India Company's service, is so small as not to affect the results in any appreciable degree. Being unwilling to bring this communication to a close without instituting some comparison between the duration of life of the several distinct bodies of medical practitioners which make up the medical profession, I have sought for the materials for such a comparison in the obituaries published in the "London and Provincial Medical Directory." From the six volumes of that work, for 1848 to 1853 inclusive, I have been able to obtain the ages at death of 482 medical men, of whom 261 were engaged in general practice, 148 were physicians or pure surgeons, and 73 in the public service of the army, navy, or East India Company. The average results are shown in the following table:—

TABLE IX.

	General Practitioners.	Physicians and Surgeons.	Army and Navy.
All ages	52·27	61·13	58·52
26 and upwards	53·27	61·13	60·00
31 ,,	54·98	62·53	62·43
41 ,,	62·32	66·19	68·07
51 ,,	68·10	70·52	71·00
Greatest Age	94	92	91

It is but natural to expect that a class of men exposed to so much fatigue, harassed by calls for professional services at all hours of the day and night, and often in prolonged attendance among those classes of the community with whom contagious maladies are most rife, should have their lives shortened when compared with the other members of the same profession. That the increased exposure to contagious maladies of the class of general practitioners, is a real and not an imaginary cause of danger, the following comparison, which extends to deaths at unknown ages, as well as to those in which the ages are specified, will demonstrate.

Out of 348 deaths occurring among general practitioners of all ages, 15 were due to fever, 5 to cholera, 5 to wounds in dissection or during operations, 1 to erysipelas, and 1 to scarlet fever; making a total of 27 deaths from exposure to sources of danger from some of which the members of other professions are entirely free, while they are partially exempt from the remainder; or, as nearly as possible, 1 death in 13.

Out of 233 deaths occurring among physicians and surgeons of all ages, there were 7 from fever, 6 from cholera, and 1 from small pox; making a total of 14 deaths from similar exposure to peculiar sources of danger; or, as nearly as possible, 1 death in 16.

Out of 117 deaths occurring among medical men engaged in the several branches of the public service, 2 are attributed to fever, 3 to cholera, and 2 to yellow fever; making a total of 7 deaths, or 1 in about 17.

The difference between 1 in 13 and 1 in 16 is sufficiently large to account for a part of the disparity which appears in the duration of life of the general practitioners and of the physicians and surgeons.

The deaths from fever in the three classes bear to deaths from all causes the respective proportions of 1 to 23, 1 to 33, and 1 to 58.

This proportion of 1 to 33, in the case of physicians and surgeons deceased within the last few years is lower than the proportion of deaths from fever recorded in the "Biographical Dictionary," for out of 175 deaths due to all causes, of which 54 are specified, no less than 9 deaths, or 1 in 19, are attributed to fever.

It must not, however, be supposed that the proportion of 1 to 33, or of 1 to 19 represents the special risk to which the members of the medical profession are exposed in the exercise of their calling: on the contrary, every man's experience must convince him that fatal cases of fever are constantly occurring among the members of other professions. In the last great epidemic of fever, in 1846—1847, for example, instances of mortality from fever among the clergy of different denominations officiating in our large towns were recorded contemporaneously with a high mortality from the same cause among medical men, relieving-officers, and others brought into frequent contact with the poorest classes. There is reason to believe, however, that the deaths from fever among medical men, and especially among general practitioners, would be found to be in excess above those occurring among clergymen and other professional persons, or among men in the same rank of life. The "Biographical Dictionary" furnishes some evidence in support of this opinion; for while, as has been already stated, the proportion of deaths from fever to deaths

from all causes is 1 in 19 in the class of physicians and surgeons, it is only 1 in 57 for clergymen, and 1 in 28 for lawyers. The mortality from fever in several classes of persons, including those just specified, is represented by the following proportions:—

TABLE X.

Profession.	Deaths from Fever.	Deaths from all Causes.	Proportion.
Clergy	16	909	1 in 57
Statesmen	2	80	1 „ 40
Miscellaneous Writers.....	12	358	1 „ 29
Lawyers	5	139	1 „ 28
Antiquarians	4	106	1 „ 26
Artists	3	76	1 „ 25
Physicians and Surgeons	9	175	1 „ 19
Poets	13	200	1 „ 15
Mathematicians and Astronomers	6	69	1 „ 11

This comparison is instituted, not to establish the exact proportion of deaths by fever among the several classes of persons specified, (for the notices contained in the “Biographical Dictionary” are not sufficiently accurate for such a purpose,) but only to show that while, on the one hand, the mortality from fever is high in the medical profession when compared to other professions, it is only, on the other hand, a part of that higher mortality which is attributable to peculiar professional causes. The subject of the risk from fever to which the members of the several professions, and persons following different occupations are exposed, is one which would repay a laborious compilation from the records of the Registrar General.

The facts contained in this essay, after due allowance has been made for the omission of the ages of the living, and the comparatively small number of recorded deaths, will probably justify the following general conclusions:—

1. That the duration of life is greater among physicians and surgeons than among the general practitioners of medicine and surgery.

2. That this greater longevity of physicians and surgeons is only in part explained by a less amount of exposure to contagious diseases and other professional risks.

3. That the duration of life of members of the medical profession, (being chiefly physicians and surgeons,) does not differ materially from the duration of life of the clergy, being somewhat less when the comparison is made between the less distinguished members of the medical profession and the clergy whose deaths are recorded in the same obituaries, and somewhat greater when the comparison is limited to the more distinguished members of the two professions.

4. That the duration of life of medical men has somewhat increased during the last three centuries.